

REMARKS

Claims 1-24 are pending in this application. By this Amendment, the specification and claims 1, 4-6, and 18-20 are amended and a formal drawing of Figure 10 is included. Reconsideration in view of the above amendments or the following remarks is respectfully requested.

A. Office Action objects to the drawings. Applicants respectfully submit that the above amendments obviate the grounds for the objection. For example, a formal drawing is provided for Fig. 10 that corresponds to the originally filed drawing and the specification has been amended to refer to elements 31, 32 and 34. Withdrawal of the objection to the drawings is respectfully requested.

B. The Office Action rejects claims 17 and 21 under 35 U.S.C. §112, first paragraph. Applicants respectfully submit that the specification, claims and drawing as filed describes an “energy bias canceler” such that one of ordinary skill in the art would know the inventors had possession of the claimed invention. See at least pg. 5, lines 3-11; pg. 9, lines 11-21; equation 6, Fig. 3 and pg. 12, line 1 to pg. 14, line 18; Fig. 4 and pg. 14, line 19 to pg. 20, line 14; pg. 21, lines 1-4 of the specification; claims 17 and 21; and Figs. 1(b) and 3-4. Note pg. 12, lines 4-7 of the specification. Withdrawal of the rejection to claims 17 and 21 under 35 U.S.C. §112 is respectfully requested.

C. The Office Action rejects claims 1-24 under 35 U.S.C. §103(a) over US Publication No. 2003/0161421 to Schmidt et al. (hereafter "Schmidt") and US Publication No. 2002/0131488 to Allpress et al. (hereafter Allpress). Since the references, individually or in combination, fail to disclose or suggest features of the claims, the rejection is respectfully traversed.

1) Applicants respectfully submit that at least features of a method for reducing signal distortion in a receiver, including canceling postcursor-ISI from the chip sequence to determine a current CCK codeword, computing a chip-time reversed estimate of the current CCK codeword and canceling precursor-ISI from a previous CCK codeword based on the chip-time reversed estimate of the current CCK codeword and combinations thereof as recited in claim 1 are not disclosed or suggested by references or their combination.

Schmidt discloses a feedback filter (240) for reducing postcursor interference in the CCK-11 modulated signal. Further, the feedback filter is activated only when the rate is determined to be 11 Mbps. See paragraph 36 of Schmidt. In contrast to recited features, Schmidt does not disclose feeding back information for reducing precursor interference, but instead determines feedforward filter coefficients based on the channel impulse response. See paragraphs 30 and 32-34 of Schmidt.

The Office Action admits Schmidt does not teach or suggest features of computing a chip-time reversed estimate of the current CCK codeword and canceling precursor-ISI from a

previous CCK codeword based on the chip-time reversed estimate of the current CCK codeword and combinations thereof as recited in claim 1.

Allpress discloses DFE directed to a channel with two types of post-cursor energy, namely a channel with minimum-phase or a channel with maximum phase. See paragraphs 7-8 of Allpress. Further, Allpress discloses the FFF and FBF coefficients both computed in a time-forward manner for the channel with minimum-phase or a time-reversed manner for the channel with maximum-phase. See paragraph 9 of Allpress.

In addition, Applicants respectfully submit that Allpress does not disclose canceling post-cursor ISI caused by a preceding symbol and using the same set of DFE to cancel pre-cursor-ISI caused by a trailing symbol or feeding back information such as canceling precursor-ISI from a previous CCK codeword based on the chip-time reversed estimate of the current CCK codeword and combinations thereof as recited in claim 1. In contrast and as shown in Figs. 6-7 of Allpress, the FFF 604 coefficients are based on channel estimation (e.g., Channel Estimation and Timing Recovery 608). See paragraphs 32-33 and 38-40 of Allpress.

Thus, Applicants respectfully submit that Schmidt and Allpress, individually or in combination, do not teach or suggest at least the features of canceling precursor-ISI from a previous CCK codeword based on the chip-time reversed estimate of the current CCK codeword and combinations thereof as recited in claim 1. Further, Applicants respectfully submits that Schmidt and Allpress do not teach or suggest any modification to their disclosure

that would result in at least the features of canceling precursor-ISI and combinations thereof as recited in claim 1.

2) With respect to claim 10, Applicants respectfully submit that paragraph 13 of Schmidt does not teach or suggest at least features of (b) performing postcursor-ISI and precursor-ISI based on the previous CCK codeword chips obtained in (a) and combinations thereof as recited. In contrast, Applicants respectfully submit that paragraph 13 of Schmidt discloses reducing pre-cursor and post-cursor ISI. Thus, Applicants respectfully submit that claim 10 defines patentable subject matter.

3) With respect to at least claims 7 and 15, Applicants respectfully submit that paragraphs 9 and 11 of Allpress do not teach or suggest at least features of wherein canceling the precursor-ISI includes computing conjugates of chip values of a future symbol; setting DFE coefficients based on the conjugates; generating precursor-ISI terms by shifting the DFE coefficients a predetermined number of times per chip clock; and subtracting the precursor-ISI terms from chip metrics corresponding to the previous CCK codeword and combinations thereof as recited. In contrast, Applicants respectfully submit that paragraph 9 of Allpress discloses:

“For maximum-phase channels, the equalization can be performed in a time-reversed manner. More specifically, the FFF and the FBF coefficients can be computed based on the channel estimates reversed in time.”

Thus, Applicants respectfully submit that “time-reversed” in Allpress merely discloses processing the data in a time-reversed manner and calculating the FFF coefficients based on the channel estimates. See paragraphs 12 and 32-33 of Allpress. Thus, Applicants respectfully submit that claims 7 and 15 define patentable subject matter.

For at least the reasons set forth above, Applicants respectfully submit that claim 1 defines patentable subject matter. Claims 12, 18 and 22-23 define patentable subject matter for at least reasons similar to claim 1. Claims 2-11, 13-17, 19-21 and 24 respectively depend from claims 1, 12, 18 and 23 and therefore also define patentable subject matter for at least that reason as well as their additionally recited features. Withdrawal of the rejection of claims 1-24 under 35 U.S.C. §103 is respectfully requested.

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Reply to Office Action of February 21, 2007

Docket No. **GCTS-0036**

CONCLUSION

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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